

ZERNOV, S. A.

ZERNOV, S. A. and N. IA. KUZNETSOV, Zhivotnyi mir SSSR. Istoricheskoe i
geograficheskoe vvedenie i obshchii sistematicheskii obzor fauny po gruppam.
Moskva, AN SSSR, 1936. v 1. 807 p.

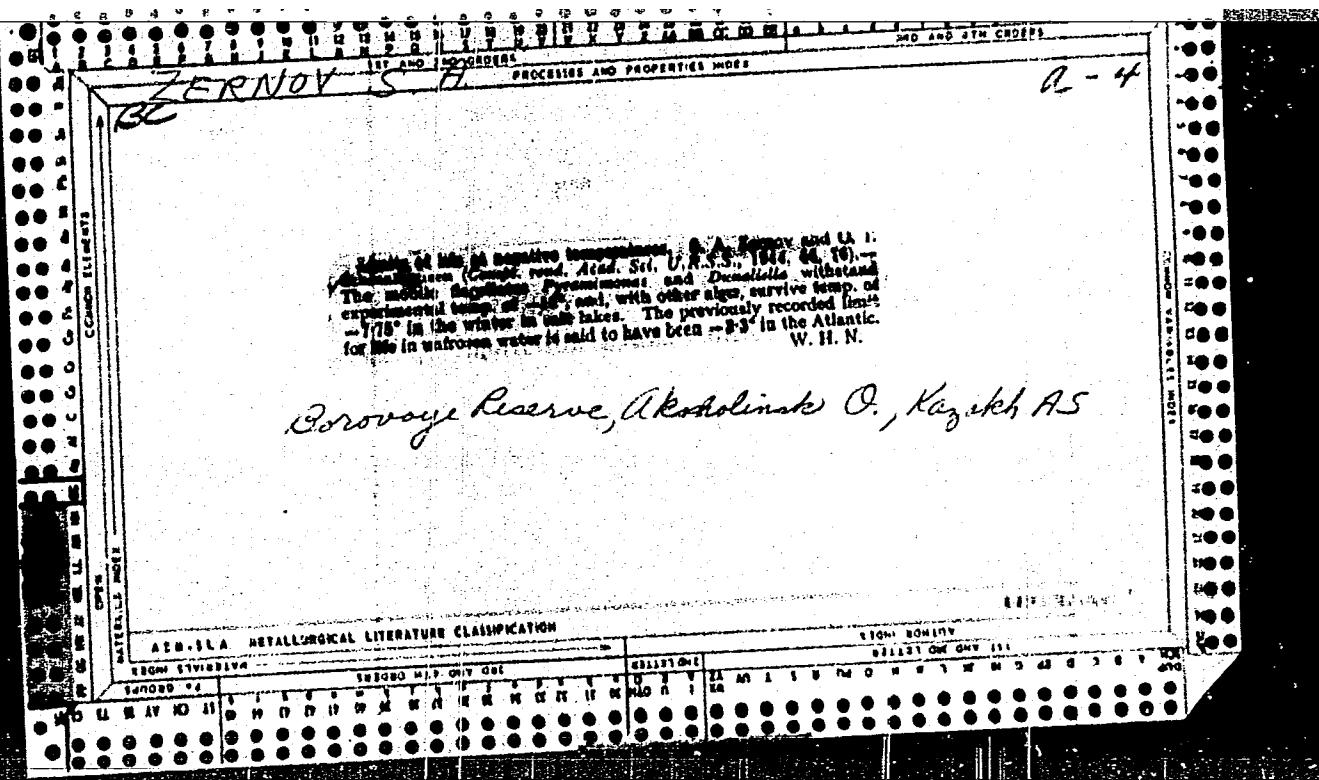
DLC: Unclass.

SO: LC, Soviet Geography, Part I, 1951, Uncl.

ZERNOV, S. A.

GALAKTIONOV, V. D. and S. A. ZERNOV. Kanal Volga-Don. Moskva, Vodnyi transport,
1939. 54 p. DIC: HE466.V6G3

SO: LC, Soviet Geography, Part I, 1951; Uncl.



ZERNOV, S. A.

ZERNOV, S. A. "Explosion dredging and the measures for its development," In the symposium: Materialy takhn. soveshchaniy po putevym rabotam (M-vo rech. flota SSSR), Moscow, 1949. p. 49-55

SO: U-5240, 17Dec53, (Letopis 'Zhurnal 'nykh Statey, No. 25, 1949).

ZERNOV, S.A.; PAVLOVSKIY, E.N.

[Atlas of U.S.S.R. game, and birds and animals having economic significance.] Atlas okhotnich'ikh i promyslovykh ptits i zverei SSSR v dvukh tomakh. Vol.2 [Wild animals]. Zveri. Pod obshchey redaktsiei akademika S.A.Zernova i akademika E.N.Pavlovskogo. Moskva, Izd-vo Akademii nauk SSSR., 1953. 293 p. (MLRA 7:3)
(Zoology, Economic) (Mammals)
1. Akademiya nauk SSSR. Zoologicheskii institut.

ZERNOV, S.

Development of waterways in the sixth five-year plan. Rech.
transp. 15 no.5:5-7 My '56. (MLRA 9:8)
(Waterways)

ZERNOV, S.A.

Practical results of river dredging. Rech. transp. 16 no.3:6-11
Mr '57. (MIRA 10:4)

1. Zamestitel' nachal'nika Glavnogo upravleniya vodnykh putey
Ministerstva rechnogo flota.
(Dredging) (Waterways)

ZERNOV, S.A., inzh.

River transportation requirements from hydroelectric power station
discharge regulation. Rech. transp. 17 no. 4:28-29 Ap '57.

(MIRA 11:4)

(Hydroelectric power stations)
(Inland water transportation)

RUMYANTSEV, Aleksandr Mikhaylovich; KRASIVSKIY, S.P., retsenzent;
MORALEVICH, Yu.A., retsenzent; ZERNOV, S.A., red.; FEDYAYEVA,
N.A., red.izd-va; YERMAKOVA, T.T., tekhn.red.

[Automatic and remote control in inland transportation]
Avtomatika i telemekhanika na rechnom transporte. Moskva,
Izd-vo "Rechnoi transport," 1959. 98 p. (MIRA 12:7)
(Remote control) (Inland navigation)

FEDOROV, Vladimir Vladimirovich, dotsent, kand.tekhn.nauk; GONCHAROV,
V.N., prof., retsenzent; ZERNOV, S.A., inzh., retsenzent;
DOMANITSKIY, A.P., red.; VOLCHOK, K.M., tekhn.red.

[Hydrology and investigation of waters] Gidrologia i vodnye
izyskania. Leningrad, Izd-vo "Technol transport," Leningr.
otd-nie, 1960. 344 p.

(Hydrology--Research)

(MIRA 13:10)

SHASHKIN, Aleksandr Ivanovich; ZERNOV, S.A., red.; MAKRUSHINA, A.N.,
red.izd-va; BODROVA, V.A., tekhn.red.

[Handbook for members of a hydrographic survey party] Spra-
vochnik; tekhnika izyskatel'skoi parti. Moskva, Izd-vo
"Technoi transport," 1960. 382 p. (MIRA 13:10)
(Hydrographic surveying--Handbooks, manuals, etc.)

TUMANOV, Veniamin Vasil'yevich; ZERNOV, S.A., inzh., retsenzent; IVANOV, V.Ye., inzh., retsenzent; SHCHAVELEV, A.F., red.; VOLCHOK, K.M., tekhn.red.

[Investigation of rivers and lakes] Rechnye i ozernye izyskaniia. Leningrad, Izd-vo "Technol. transport," Leningr. otd-nie, 1960. 264 p. (MIRA 13;9)
(Hydrographic surveying)

ROMANOV, L.; ZERNOV, S.

Using RMZ floating cranes in cleaning river beds. Rech. transp.
19 no. 6:42-43 Je '60. (MIRA 14:2)

1. Glavnnyy inzhener Lenskogo basseynovogo upravleniya puti (for
Romanov). 2. Glavnnyy inzhener Kirenskogo tekuchastka (for
Zernov).

(Rivers--Regulation)

YUDIN, Petr Sergeyevich, kand. tekhn. nauk; MASCHEV, Viktor Aleksayevich, inzh.; ZENOV, S.A., retsenzent; PANOV, S.N., retsenzent; GRIGOR'YEV, S.N., red.; FEDYAYEVA, N.A., red. izd-va; POKHLEBKINA, M.I., tekhn. red.

[Mechanization of straightening operations] Mekhanizatsiia vypravitel'nykh rabot. Moskva, Izd-vo "Rechnoi transport," 1961. 131 p.

(MIRA 14:6)

(Rivers--Regulation)

(Earthmoving machinery)

VLADIMIROV, Nikolay Petrovich; SHCHEPETOV, Ivan Alekseyevich;
BELOGLAZOV, Vasiliy Ivanovich; PUSHKAREV, Leonid Vasil'yevich;
ZERNOV, S.A., inzh., retsenzent; AGAPOV, A.D., kapitan,
retsenzent; PYATLIN, A.A., kapitan, retsenzent; BAKULIN, P.F.,
kapitan, retsenzent; MOSKVIN, S.V., kapitan-nastavnik,
retsenzent; POROCHKIN, Ye.M., red.; MAKRUSHINA, A.N., red.

[Special sailing directions for the Volga-Kama and Don River
basins; Moscow Canal, Volga River from the Ivankovo Hydraulic
Development Complex to Bertyul', Kama River from the city of
Perm to its estuary, Volga-Don Canal, Tsimlyansk Reservoir, and
the Don River from the Tsimlyansk Reservoir to the city of
Rostov] Spetslotsiiia Volzhsko-Kamskogo i Donskogo basseinov; ka-
nal im. Moskvy, r. Volga ot Ivan'kovskogo gidrouzla do nas.
p. Bertyul', r. Kama ot g. Perm' do ust'ia, Volgo-Donskoi kanal
im. V.I.Lenina, Tsimlianskoie vodokhranilishche i r. Don ot
Tsimlianskogo vodokhranilishcha do g.Rostov. Moskva, Transport,
1964. 288 p.

(MIRA 17:10)

CHEKRENEV, Aleksey Ivanovich; GRISHANIN, Kirill Vladimirovich;
KUSTOV, L.I., prof.; retaenzent; ZERNOV, S.A.; retsenszent;
LEONOV, P.A., red.; MAKRUSHINA, A.N., red.

[Waterways] Vodnye puti. Moskva, Transport. Pt.2. 1964.
319 p. (MIRA 18:2)

KANTOVSKIY, Boris Sergeyevich, inzh.; SEMENOV, Petr Ivanovich, inzh.; FAYBURG, Tat'yana Yevgen'yevna, inzh.; GALLE, I.I., retsentsent; ZENOV, S.A., red.

[Waterways with navigation locks] Shliuzovannye vodnye puti. Moskva, Izd-vo "Transport," 1964. 300 p. (MIRA 17:7)

ZERNOV, S. M.

Mine ventilator operator. Sverdlovsk, 1943. 86 p.

TN301.24

1. Mine ventilation.

Zernov, V.A., inzhener

Improved lumber drier. Der.prom.4 no.9:22-23 S '55. (MIRA 8:11)

1. TePKB Glavstandartdoma Ministerstva promyshlennosti stroitel'-nykh materialov SSSR.

(Lumber--Drying)

ZERNOV, V.A., inzhener.

Drying chamber for wastes in woodworking plants. Der.prom. 5
no.5:23 My '56. (MLRA 9:8)
(Wood waste) (Lumber--Drying)

SOKOLOV, P.V.; ZERNOV, V.A., spets. red.; STOGOVA, T.I., red.

[Technical and economic indices of lumber kilns] Tekhniko-ekonomicheskie pokazateli lesosushil'nykh kamer. Moskva, TSentr. nauchno-issl. in-t informatsii i tekhniko-ekon. issledovanii po lesnoi, tsellyulozno-bumazhnoi, derevoobrabatyvayushchey promyshl. i lesnomu khoz., 1964. 29 p.

(MIRA 18:5)

1. TSentral'nyy nauchno-issledovatel'skiy institut tekhnicheskoy informatsii i tekhniko-ekonomicheskikh issledovaniy po lesnoy, tsellyulozno-bumazhnoy, derevoobrabatyvayushchey promyshlennosti i lesnomu khozyaystvu (for Stogova).

ZERNOV, V.A., inzh.

Metal chambers for high-temperature drying of lumber. Der.prom.
9 no.8:17-18 Ag '60. (MIRA 13:8)
(Lumber--Drying)

ZERNOV, Valentin Alekseyevich; STRELKOVA, A., red.; MALEK, Z., tekhn.
red.

[Color separation photography in reproduction techniques]
TSvetodelitel'noe fotografirovaniye v reproduktsionnoi tekhnike. Moskva, Gos.izd-vo "Iskusstvo," 1961. 134 p.
(MIRA 15:1)

(Color photography)

ZERNOV, V.A., inzh.

Modernized ejector-type kiln for high-temperature lumber drying.
Der. prom. 13 no.1:11-14 Ja '64. (MIRA 17:4)

1. Gosudarstvennyy institut po proyektirovaniyu predpriyatiy
derevoobrabatyvayushchey promyshlennosti.

ZERNOV, V.A., Cand Tech Sci—(diss) "Study of the photographic process in three-color deep print ^{up} The role of the ~~the~~ ^{refine} ^{up} of the ~~the~~ photo-process and its effect ^{up} on the color trans-
fer, ^{up} principles and method of calculating ^{up} the photoprocess
Mos, 1958. 20 pp (Min of Higher Education USSR. Mos
Polygraph Inst), 150 copies. Bibliography: pp 19-20 (17 titles)
(KL,25-58, 113)

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AUTHOR: Zernov, V.A. SOV/19-58-6-571/685

TITLE: A Method of Masking Color-Separation Negatives and Diapositives with the Use of Light Filters (Sposob maskirovaniya tsvetodelennykh negativov i diapozitivov s primeneniem svetofil'trov)

PERIODICAL: Byulleten' izobreteniy, 1958, Nr 6, p 126 (USSR)

ABSTRACT: Class 57b, 18₀₈. Nr 113835 (581306 of 20 Jul 57). Submitted to the Committee for Inventions and Discoveries at the Ministers Council of USSR. A method of improving the quality of color reproduction, consisting in the use of two three-zone light-filters for one mask, and choosing the exposure time when producing the mask so that the optical density of the neutral-gray color of the original is equal to the optical density of the veil on the mask.

Card 1/1

ZERNOV, V.A., inzhener.

Glued floor panels made of sawmill wastes. Der.prom. 6 no.1:17 Ja
'57. (MLBA 10:2)

1. Industroproyekt.
(Wood waste) (Floors)

ZERNOV, P.N.

Viscose residues in operating tanks. Khim.volok. no.4:66-67
'59. (MIRA 13:2)

1. Mogilevskiy zavod.
(Viscose)

24(3), 24(8)

SOV/56-36-4-12/70

AUTHORS: Zernov, V. B., Sharvin, Yu. V.

TITLE: Measurement of the Resistance of Tin of High Purity at Helium Temperatures (Izmereniye soprotivleniya olova vysokoy chistoty pri zolotovykh temperaturakh)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959,
Vol 36, Nr 4, pp 1038-1045 (USSR)

ABSTRACT: Measurement of the residual resistance of metals at low temperatures is a sensitive method of determining purity. The sensitivity of the method is limited by the scattering of conduction electrons on lattice inhomogeneities which are not connected with impurity. This includes scattering on inter-crystalline boundaries (in the case of polycrystalline samples), on dislocations and other inhomogeneities of the lattice and on the outer boundaries of the crystal. If the metal investigated is an isotope-mixture, a certain "isotopic" residual resistance occurs. In the present paper the authors describe experimental investigations of a number of tin single-crystal samples of different degrees of purity and determined the temperature dependence of resistance within the range of helium temperatures

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Measurement of the Resistance of Tin of High Purity at Helium Temperatures

as well as anisotropy. The authors employed a contact-less method based upon measuring of the moment of forces acting upon the conductive spherical samples in a rotating magnetic field. The method was developed by A. R. Regel' (Ref 1). Figure 1 shows the experimental arrangement; measurements are discussed and theoretically explained. For a sufficiently low rotating frequency of the magnetic field it applies in first approximation for the resistance that

$Q = 10^{-9} (4\pi^2/15) (R^5 H^2 / TM) [\Omega \cdot \text{cm}]$ (R = radius of the sphere in cm, H = field strength in Oe, T = rotation period in sec, M the moment acting upon the sample in dyn.cm). With δ being the skin layer into which the field penetrates, it must hold that $\delta \gg R$ ($\delta = \sqrt{10^9 Q T / 2\pi}$). For the purpose of experiments T was chosen at 400 - 500 sec and $R/\delta \leq 0.5$. In the following the conditions for ellipsoid-shaped samples (semiaxes a, b = c) are discussed. For the moment of forces it then holds that

$$M = 10^{-9} \frac{4\pi^2}{15} \frac{a^5 H^2}{T} \frac{2k^4}{Q_{||} + k^2 Q_{\perp}}$$

where $k = b/a$. The authors use samples, in which $k = 1 + \varepsilon$,

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Measurement of the Resistance of Tin of High Purity at Helium Temperatures

$0 < \varepsilon \ll 1$. In the following, formulas are given for $\bar{q} = (q_{\parallel} + q_{\perp})/2$ and for q_{\perp} for the case in which

$\varepsilon = M_{\max}^2 / 0.15 H^2 a^2$. Measuring results are given by table 1

and are discussed in detail. In the following the particular features of some samples are discussed, the measured and calculated \bar{q} -values for temperatures between 4.23 and 3.73°K are compared (Table 2), and the influence exercised by working the samples upon resistance is investigated (Table 3). For the anisotropy b , $b_{\parallel}/b_{\perp} = 1.5 \div 1.6$ is found. The ratio q_{\parallel}/q_{\perp} for $\sim 4.2^{\circ}\text{K}$ is about 1.3 - 1.5. For samples of the greatest purity the residual resistance was determined as amounting to

$\approx 3.7 \cdot 10^{-11} \Omega \cdot \text{cm}$, which corresponds to an electron mean free path of about 3 mm. Finally, the dependence of the residual resistance of tin on the impurity concentration C is investigated. In the double-logarithmic scale figure 2 shows the force of the dependence of q_0/q_{200C} on C (in percentage by weight). The values are on a straight line. In conclusion, the

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Measurement of the Resistance of Tin of High Purity at Helium Temperatures SOV/56-36-4-12/70

authors thank N. N. Mikhaylov, Head of the Technological Department of the IFP, for supplying the highest-purity tin; they further thank I. Ya. Pomeranchuk for letting them know the results of a paper before its publication, and they finally also thank A. I. Shal'nikov for discussions and valuable comments. There are 2 figures, 3 tables, and 17 references, 5 of which are Soviet.

ASSOCIATION: Institut fizicheskikh problem Akademii nauk SSSR (Institute for Physical Problems of the Academy of Sciences, USSR)
SUBMITTED: October 16, 1958

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L 31993-66
ACC NR: AP6019565

FWT(m)/FWP(t)/ETI

LJP(c) JD

SOURCE CODE: UR/0080/66/039/006/1259/1266

AUTHOR: Chernyayev, V. N.; Zernov, V. B.; Povedskaya, L. G.; Yershova, S. A.;
Klofach, I. I.

ORG: none

TITLE: Deep purification of cadmium and zinc by rectification and zone refining

SOURCE: Zhurnal prikladnoy khimii, v. 39, no. 6, 1966, 1259-1266

TOPIC TAGS: cadmium, zinc, metal purification, metal zone refining, electric
resistance, cadmium compound, zinc oxideABSTRACT: Deep purification of CdO commercial-grade cadmium and ZnO commercial-grade zinc by rectification and subsequent zone refining is described. Rectification was done in a h-f induction heated, graphite, shelf-type column with 26 plates, or in a quartz bubbling-type column with 10 and 20 plates. A single charge of metal was 9-11 kg. The purity of the metal fractions obtained with rectification was determined by measurement of the residual electric resistance at 4.2 K. Rectification alone lowered the total content of Al, Ni, Sn, Sb, Pb, Bi, Co, Mn, Ca, Ga and other impurities in cadmium to less than $1 \cdot 10^{-5}$ wt %. The yield was 60% of the charge. The lowest values of the residual electric resistance obtained with rectification was $0.9 \cdot 10^{-10}$ ohm·cm for zinc and $0.6 \cdot 10^{-10}$ ohm·cm for cadmium. Additional purification was done by 20-pass zone refining with a molten metal zone 4.5 cm wide

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and a zone speed of 4.5 mm/hr. With zone refining the residual electric resistance in zinc and cadmium decreased to $0.6 \cdot 10^{-10}$ and $0.48 \cdot 10^{-10}$ ohm·cm, respectively (the respective purity 99.99998%). From the data on cadmium rectification the coefficient of the separation for the Cd-Zn system with a low concentration ($1 \cdot 10^{-3}$ — 10^{-4} wt%) of the second component was calculated and found to be 2.0 ± 0.3 .
Orig. art. has: 6 figures and 4 tables.

SUB CODE: 11, 13/ SUBM DATE: 06May65/ ORIG REF: 015/ ATD PRESS: 5021 [MS]

Card 212 Lc

ZERNOV, V.D.

Teacher and friend. Trudy Inst.ist.est.i tekh. 28:111-120
'59. (MIRA 13:5)
(Lebedev, Petr Nikolaevich, 1866-1912)

IVANOVA, Ye.P., starshiy nauchnyy sotr.; ZERNOV, Ye.V., prepodavatel';
KIRSANOVA, G.A., nauchnyy sotr.; NOVIKOVA, N.D., nauchnyy sotr.;
TARASOVA, N.D.; RISHINA, R.G., starshiy inzh.; LEVINSKIY, V.B.,
red.; SHPAK, Ye.G., tekhn. red.

[Work organization and establishing technical standards in enterprises manufacturing synthetic fibers] Organizatsiia truda i tekhnicheskoe normirovanie na predpriatiiaakh khimicheskikh volokon. By E.P.Ivanova i dr. Moskva, Gos. nauchno-tekhn.izd-vo khim. lit-ry, 1961. 175 p. (MIRA 15:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna (for Ivanova, Kirsanova, Novikova). 2. Moskovskiy tek-stil'nyy institut (for Zernov). 3. Nachal'nik normativno-issledovatel'skoy laboratoii po trudu Kalininskogo kombinata (for Tarasova). 4. Gosudarstvennyy komitet po khimii pri Sovete Ministrov SSSR (for Rishina).

(Textile fibers, Synthetic—Production standards)

ZERNOV, Ye.V., kand.tekhn.nauk, dotsent

Present state and development trends of the world production
of synthetic fibers. Tekst.prom. 22 no.9:84-88 S '62.

(MIRA 15:9)

1. Moskovskiy tekstil'nyy institut (MTI).

(Textile fibers, Synthetic)

KHANOV, Ye.V.

World production of synthetic fibers. Izv.vys.ucheb.zav.; tekhn.
tekst.prom. no.3:3-8 '60. (MIRA 13:7)

1. Moskovskiy tekstil'nyy institut.
(Textile fibers, Synthetic)

ZERNOV, YE. V.

Dissertation: "Progressive Standards of Utilization of Basic Technological Equipment on Centrifugal Plants of Viscous Silk." Cand Tech Sci, Moscow Textile Inst. 13 May 54.
(Vechernaya Moskva, Moscow, 26 Apr 54)

SO: SUM 243, 19 Oct 1954

ZERNOVA, A.; OSMOLOVSKIY, Yu.

Techniques used in restoring paintings. IUn.tekh. 2 no.1:29-32
Ja '58. (MIRA 11:1)
(Paintings--Conservation and restoration)

ZERNOVA, A. I.

"The Ichthyological Fauna of the Luga River Basin." Cand Biol Sci,
Leningrad State Pedagogical Inst, Leningrad, 1953. (RZhBiol, No 1,
Sep 54)

SO: Sum 432, 29 Mar 55

ZERNOVA, I. I.; KIRPICHNIKOVA, V.V.; KOTRELEV, V.N.; KUZ'MINA, S.Ya.

Aging of polyethylene and of its mixtures with polyisobutylene
under atmosphere conditions. Plast.massy no.11:4-8 '60.

(MIRA 13:12)

(Polyethylene) (Propene)

88546

15.8101

S/191/60/000/011/002/016
E013/B054

AUTHORS: Zernova, K. I., Kirpichnikova, V. V., Kotrelev, N. N.,
Kuz'mina, S. Ya.

TITLE: Aging of Polyethylene and Its Mixtures With Polyisobutylene
Under Atmospheric Conditions

PERIODICAL: Plasticheskiye massy, 1960, No. 11, pp. 4 - 8

TEXT: The present paper deals with the aging of polyethylene and its mixtures with polyisobutylene. Samples of ethylene and its mixtures with polyisobutylene at a ratio of 90:10 ((P0B-90) - POV-90), 67:33 (POV-67), and 50:50 (POV-50) were subjected to fatigue tests in the open air under different climatic conditions in the central part of the USSR, on the coast of the Barents Sea and of the Black Sea, and in Central Asia. The test conditions are sufficiently characterized by the meteorological data of the regions concerned (Table 1). Mechanical characteristics, fatigue strength and elongation, were determined, and thermomechanical properties as well as structural changes were studied. In all materials of the group mentioned, ✓

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Aging of Polyethylene and Its Mixtures With
Polyisobutylene Under Atmospheric Conditions

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a noticeable deterioration of mechanical properties was observed during the tests: a decrease in strength and a considerable drop in relative elongation. A higher polyisobutylene content reduced the resistance of the polymeric mixture of atmospheric factors. It was found that higher temperatures accelerated the aging of the material, and that a continuous and intense exposure to sunlight greatly increased the degree of aging. Zhurkov's apparatus, modified by Kanavets (Ref. 2), was used to study the thermomechanical properties. The thermomechanical curves showed: 1) The range of elasticity was missing in all curves; 2) after two years of aging, the temperature of transition to the viscous state shifted slightly towards lower temperatures; 3) after aging, the curves for all materials showed a character different from that before aging. This indicates the formation of reactive groups due to chemical changes during aging. The strong decrease in elongation, starting in all polyethylene - polyisobutylene mixtures after 6 - 8 months already, indicates the predominance of the destruction process during aging. The structural changes during aging were studied by infrared spectroscopy, and the formation of aldehyde groups was ascertained. Like other hydrocarbons, polyethylene oxidizes

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Aging of Polyethylene and Its Mixtures With
Polyisobutylene Under Atmospheric Conditions

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during aging with formation of peroxides which decompose and give secondary decomposition products, aldehydes, carbon dioxide, etc. (Ref. 1). The tests showed that polyethylene and its mixtures with polyisobutylene cannot be used longer than 3-4 months in the mentioned characteristic areas under atmospheric conditions (in the open air) because of their low resistance to solar radiation. There are 10 figures, 1 table and 4 Soviet references.

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TIKHOMIROVA, N.S.; ZERNOVA, K.I.; KOTRELEV, V.N.

Some methods of evaluating plastic lining materials in their
relation to corrosive liquids. Plast. massy no.12:40-45 '62.

(MIRA 16:1)

(Plastics) (Corrosion-resistant materials)

BOLDYREV, G.P.; VOGMAN, D.A.; NOVOKHATSKIY, I.P.; VERK, D.L.; DYUGAYEV, I.V.; KAVUN, V.M.; KURENKO, A.A.; UZBEKOV, M.R.; ARSEN'YEV, S.Ia.; YEGORKIN, A.N.; KORSAKOV, P.F.; KUZ'MIN, V.N.; STREETS, B.A.; PATKOVSKIY, A.B.; BOLESLAVSKAYA, B.M.; INGENBOM, D.B.; FINKEL'SHTEYN, A.S.; SHAPIRO, I.S.; LAPIN, L.Yu. Prinimali uchastiye: NEVSKAYA, G.I.; FEDOSEIEV, V.A.; KASPILOVSKIY, Ya.B., ZERNOVA, K.V.. BARDIN, I.P., akademik, otv.red.; SATPAYEV, K.I., akademik, nauchnyy red.; STRUMILIN, akademik, nauchnyy red.; ANTIPOV, M.I., nauchnyy red.; BELYANCHIKOV, K.P., nauchnyy red.; YEROFEEV, B.N., nauchnyy red.; KALGANOV, M.I., nauchnyy red.; SAMARIN, A.M., nauchnyy red.; SHEDZYUK, P.Ye., nauchnyy red.; KHLIBNIKOV, V.B., nauchnyy red.; STREYS, N.A., nauchnyy red.; BANKVITSER, A.L., red.izd-va; POLIAKOVA, T.V., tekhn.red.

[Iron ore deposits in central Kazakhstan and ways for their utilization] Zhelezorudnye mestorozhdeniya TSentral'nogo Kazakhstana i puti ikh ispol'zovaniia. Otvetstvennyi red. I.P.Bardin. Moskva, 1960. 556 p.

(MIRA 13:4)

1. Akademiya nauk SSSR. Mezhdunarovstvennaya postoyannaya komissiya po zhelezu. 2. Gosudarstvennyy institut po proyektirovaniyu gornykh predpriyatiy zhelezorudnoy i margantsevoy promyshlennosti i promyshlennosti nemetallicheskikh iskopayemykh (Giproruda) (for Boldyrev, Vogman, Arsen'yev, Yegorkin, Korsakov, Kuz'min, Strelets,

(Continued on next card)

BOLDYREV, G.P.--(continued). Card 2.

3. Institut geologicheskikh nauk AN Kazakhskoy SSR (for Novokhatskiy).
4. TSentral'no-Kazakhstanskoye geologicheskoye upravleniye Ministerstva geologii i okhrany nedor SSSR (for Verk, Dyugayev, Kavun, Kurenko, Uzbekov).
5. Nauchno-issledovatel'skiy institut mekhanicheskoy obrabotki poleznykh iskoppayemykh (Mikhanobr) (for Patkovskiy).
6. Gosudarstvennyy institut proyektirovaniya metallurg.zavodov (Gipromez) (for Bolemlavskaya, Indenbom, Finkel'shteyn, Nevskaya, Fedoseyev, Karpilovskiy).
7. Mekhduvedomstvennaya postoyannaya komissiya po zhelezu AN SSSR (for Shapiro, Zernova, Kalganov).
8. Gosplan SSSR (for Lapin).

(Kazakhstan--Iron ores)

PLAKSIN, S.A.; GOTOVTSEVA, L.A.; ZERNOVA, K.N.; RYZHAKOVA, T.S.

Peroxide bleaching of back grey. Tekst.prom. 20 no.2;
45-48 F '60. (MIRA 13:6)
(Textile printing--Equipment and supplies)
(Bleaching) (Textile fabrics)

GOTOVTSEVA, L.A.; ZERNOVA, K.N.; SHIKHER, M.G.; FROIOVA, Ye.N.

Simplified method of continuous alkali-peroxide bleaching of
fabrics. Nauch.issl.trudy IvNITI 25:154-182 '61. (MIRA 15:10)
(Bleaching) (Textile fabrics)

A comparative study of the lipase of tissues. I. Platousov and M. Zemantsev. *J. Physiol. U.S.S.R.* 23, 131-136 (in French 130) (1937). The lipase of lung tissue (I) is 3-4 times less active than that of the liver. At pH 4.40 the I of cats, rabbits, dogs and rats show practically the same activity. At pH 7.38 the activity increases 2-3 times, the increase being greater in rabbits and rats. Liver lipase shows a greater activity at pH 4.40 than at 7.38, as does the lipase of the lymphatic gland which also always shows less activity than I. S. A. Kurjala

AIN-SLA METALLURGICAL LITERATURE CLASSIFICATION

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STANDBY FILE

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GOTOVTSEVA, L.A.; ZERNOVA, K.N.; POPKINA, S.N.; CHERNYSHEV, N.A.;
SHIKHER, M.G.

Bleaching of fabrics made from a mixture of cotton and viscose spun
rayon. Nauch.issl.trudy IvNITI 25:145-153 '61. (MIRA 15:10)
(Textile fabrics) (Bleaching)

YERMOKHINA, T.M.; ZAYTSEVA, G.N.; ZERNOVA, L.I.; BELOZERSKIY, A.N.,
akademik

Some data on the "species" of sRNA and aminoacyl-sRNA-synthetases
in micro-organisms. Dokl. AN SSSR 159 no.5:1165-1168 D '64
(MIRA 18:1)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.

TRET'YAKOV, A.P.; NIKOLAYEV, L.A.; CHEN KHUA-DIN [Ch'eng Hua-ting];
ZERNOVA, M.V.; TULUPOV, V.A.

Cleaning cil sections of coolers without dismounting them
from the diesel locomotive. Trudy MIIT no.110:125-150 '59.
(Diesel locomotives--Maintenance and repair)

USSR

—Mechanical properties and microstructure of 10% tin-2% zinc and of 6% tin-4% lead bronze. A. A. Vengerson and N. A. Zernov. *Lidelsce Praviedlo* 1935, No. 1, 24-5.—
Mechanical properties of castings made in sand molds and by vacuum aspiration showed, resp., for the leaded bronze 23.2 and 27.3 kg./sq. mm. tensile strength and 14.3 and 12.7% elongation, and for the Zn bronze 24.3 and 39.0 kg./sq. mm. tensile strength and 11.3-21.2% elongation. Vacuum aspiration method (not described) leads to a more uniform distribution of the compounds and a finer grain.

J D Gat

USSR

2011
Bull. Chem. Eng. Phys. Chem. Mekhanicheskie vlastivosti
metallov i zhidkostey. No. 2. 1955. p. 115-120.
1955, no. 1 Jan p. 115.

Microstructural and strength analysis of leaded bronze. Tables.
Schematics, graphs, micrographs.



ZERNOVA, N.A.

YURGENSON, A.A.; ZERNOVA, N.A.

Mechanical properties and microstructure of the Br.OTs-10-2 and
Br.OS-10-10 bronze varieties. Lit.proizv. no.1:24-25 Ja '55.
(Bronze) (MIRA 8:3)

KOROTKOV, Veniamin Grigor'yevich; GORSHKOV, A.A., retsenzent; ZERNCOVA,
N.A., inzh., retsenzent; CHURMANOVA, V.V., tekhn. red.

[Refinement of cast aluminum alloys] Rafinirovaniye liteinykh
aluminievych splavov. Moskva, Mashgiz, 1963. 126 p.

1. Chlen-korrespondent Akademii nauk Ukr. SSR (for Gorshkov).
(Aluminum alloys) (MIRA 16:4)

YEROFEYEV, B.V.; OSIPENKO, I.F.; DOROSHKEVICH, M.N.; ARAPOVA, L.D.;
BIRUL' CHIK, T.N.; ROZENEGER, A.Ya.; ZERNOVA, H.M.; ZVIZZHOUV,
V.V.; KATSEVA, N.N.

Antiblock composition for cellophane. Khim. volok. no.4:64-66
!64 (MIRA 18:4)

1. Institut fiziko-organicheskoy khimii AN BSSR (for Yerofeyev,
Osipenko, Doroshkevich, Arapova, Birul'chik). 2. Mogilevskiy
zavod iskusstvennogo volokna (for Rozenberg, Zernova, Zvizzhov,
Katseva).

GORBANENKO, A.D.; ZEGER, K.Ye.; ZERNOVA, T.A.; IVANOV, K.I.;
LIPSHTEYN, R.A.; LUZHETSKIY, A.A.; POVOLOTSKIY, L.I.

Importance of ash content in boiler fuels for electric power
plants. Standartizatsiia 28 no.1:24-25 Ja '64.

(MIRA 17:1)

KOSSOVA, Ye.T.; SHALYT, L.S.; ZERNOVA, V.A.

*Detoxication function of the liver in kidney diseases in children,
Vop. ekh. mat. I det. 6 no.0116-20 Ag '61. (MIR 15:1)*

1. Iz somaticheskoy kliniki i klinicheskoy laboratorii Leningradskogo
nauchno-issledovatel'skogo pediatricheskogo instituta (nauchnyy
rukovoditel' - prof. E.I.Fridman [deceased]) (dir. - zasluzhennyy
vrach RSFSR L.S.Kutina).

(KIDNEYS-DISEASES) (LIVER)

ZERNOVA, V.V.

Quantitative distribution of phytoplankton in the northern part of the
Indian Ocean. Turdy Inst. okean. 58:45-53 '62. (MIRA 15:12)
(Indian Ocean—Phytoplankton)

ZERNOVA, V.V.

Distribution of net phytoplankton in the tropical area of the
western part of the Pacific Ocean. Trudy Inst. Okean. 65:
32-48 '64. (MIRA 18:8)

NAUMOV, A.G.; ZERNOVA, V.V.; IVANOV, Yu.A.; TAREYEV, B.A.

Frontal zones and biogeographic division of the surface waters
(0 - 500m.) of the southern part of the Pacific Ocean based on plankton.
Trudy Inst.okean. 58:54-66 '62. (MIRA 15:12)
(Pacific Ocean—Plankton)

PONOMAREVA, L.A.; NAUMOV, A.G.; ZERNOVA, V.V.

Composition of food of some species of euphausiids in the Indian
Ocean. Trudy Inst. okean. 58:163-166 '62. (MIRA 15:12)
(Indian Ocean—Euphausiacea)

ZERNOVA, V.V.; IVANOV, Yu.A.

Distribution of net phytoplankton depending on hydrological
conditions in the northern part of the Indian Ocean. Trudy Inst.
okean. 64:257-264 '64. (MIRA 17:7)

ZERNOV, Ye. I.

FEYMAN, I. I., dotsent; ZERNOV, B. L.; ZERNOVA, Ye. I., inzhener

Hemp processing on flax-spinning machinery. Tekst.prom.15 no.7:14-
16 J1'55.
(MLRA 8:11)

1. ETI (for Feyman) 2. Zaveduyushchiy TSentral'no-nauchnoy issledo-
vatel'skoy laboratorii Glavl'na (for Zernov) 3. Kostromskiy l'no-
kombinat imeni Lenina (for Zernova).
(Hemp)

ZERNOVA, YE.I.

FEYMAN, I.I.; ZERNOVA, Ye.I.

Processing ramie fiber on flax spinning equipment. Tekst.prom.
14 no.6:26-29 Je '54. (MLRA 7:7)

1. Dotsent Kostromskogo tekstil'nogo instituta (for Feyman)
2. Zaveduyushchaya pryadil'noy fabrikoy l'nokombinata im. Leningrad (for Zernova)
(Ramie) (Spinning machinery)

ZERNOVA, Ye.N.; LIBMAN, Ye.P., kand. ekon. nauk, red.

[Bibliography of manuscript reports and printed works of the Scientific Research Institute for Mica, Asbestos Cement Elements, and the Designing of Construction for Enterprises of the Mica Industry] Bibliograficheskii ukazatel' rukopisnykh otchetov i pechatnykh izdanii instituta "NIIASBESTsEMENT." Moskva, Otdel nauchno-tehn. informatsii, 1959. 26 p.

(MIRA 15:1)

1. Nauchno-issledovatel'skiy institut, slyudy, asbestotsementnykh izdelii i proyektirovaniya stroitel'stva predpriyatiy slyudinoy promyshlennosti.

(Bibliography--Mica)

"APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R001964510005-0

MATRYNIN, V.P.; ZERNOVA, Ye.V.

Apparatus for the purification of pyrogallol. Zav.lab. 27 no.11;
1425 '61. (MIRA 14:10)
(Pyrogallol)

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R001964510005-0"

ZERNOVSKI, K.

The hydroelectric system of Mavrovo, p. 12.
(GLASNIK, Vol. 1, No. 1, Mar./Apr. 1956)

SO: Monthly List of East European Accessions (EEAL) LC Vol. 6, No. 12, Dec. 1957
Uncl.

ZERNOVSKI, Kiril, Inz.

Technical power solution of the Vardar River on the Skopje-Titov
Veles section. Vodoprivreda Jug 3 no.12:57-77 '60.

(EEAI 10:9)

(Water)

1.1210

85909

Z/034/61/000/001/021/021
E073/E535

AUTHOR: Zernow, L.

TITLE: Principle and Application of Explosive Forming of Metals. ¹⁸
Abstracted by A. Vetiška

PERIODICAL: Hutnické listy, 1961, No.1, p.72

TEXT: This abstract is based on the contents of a lecture given by the author in a Colloquium on shaping fine sheets, held in Paris. In explosive forming, the shock wave is utilized which acts against the material to be shaped in an open die. The air is extracted from the die space behind the blank in order to prevent adiabatic heating of the air during sudden compression. The most suitable medium for transmitting the shock wave is water. The detonation of the explosive under the water surface will generate a shock wave and a closed space occupied by the hot gases. The main source of shaping energy is the shock wave. The height of the water head above the explosive is important, since the reflected secondary pressure waves from the water surface and from the walls of the vessel contribute in the shaping process. If the depth from the surface of the water to the point of the explosion is too small, the reflected wave will weaken considerably. Any

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Principle and Application of Explosive Forming of Metals.
inhomogeneous explosive of a certain activity is suitable for explosive forming. Solid and liquid explosives were tried and no great difference was found to exist in the effects of pressure waves propagating at various speeds. Study of the shaping by means of high speed motion pictures showed that the sheet is deformed in 10^{-2} to 20^{-3} sec, although on the average the pressure effect has a duration of 10^{-1} to 10^{-2} sec. It was found that the proposed method of shaping is particularly suitable for special steels and alloys with high strength, which are very difficult to shape by current methods. It was also found that all current grades of steel, stainless steels, titanium alloys, aluminium alloys and other currently used materials can be formed by explosion. "Abroad" this method is being used for producing lids of pressure vessels, various spherical shaped containers, corrugated sheets etc. The final shaping is achieved in the cold state by a single explosion, whereby the formed articles are very accurate, both as regards dimensions and wall thickness. Sheets up to 25 mm thick were successfully formed by this method. The method is very economical, particularly for forming large components. In view of the speed and accuracy this method is very promising, particularly for large scale forming. There is 1 figure.

Card 2/2

SOV/123-59-15-59860

Translation from: Referativnyy zhurnal. Mashinostroyeniye, 1959, Nr 15, p 136 (USSR)

AUTHOR: Zernyakov, B.S.

TITLE: New Insulation Paste for Copper Plating Prior to Cementation

PERIODICAL: Tekhnol. avtomobilestroyeniya, 1958, Nr 6, pp 82 - 84

ABSTRACT: The application of current reversal for electrolytic copper plating makes it possible to obtain slightly porous deposits of copper at a comparatively high current density and permits the use of a cyanic electrolyte not containing a de-passivator, i.e. Seignette's salt. However, the current reversal shows a positive effect only in a preheated electrolyte. The increase of the temperature of the solution, however, has a negative effect on the insulation, which protects the spots of the machine part not to be plated; thereby the insulation comes off the metal and floats

Card 1/2

ACC NR: AT7002153

(A)

SOURCE CODE: UR/0000/66/000/000/0020/0024

AUTHOR: Shcherban', A. N.; Filippenko, L. G.; Zernyak, T. S.

ORG: Institute of Technical Thermophysics AN UkrSSR (Institut tekhnicheskoy teplofiziki
AN UkrSSR)TITLE: On chemical equilibrium in a gas mixture assuming an arbitrary relationship
between volume and pressureSOURCE: AN UkrSSR. Termodinamika teplovyykh dvigateley (Thermodynamics of heat
engines). Kiev, Izd-vo Naukova dumka, 1966, 20-24

TOPIC TAGS: chemical equilibrium, gas pressure, gas analysis

ABSTRACT: A system of equations is derived for determining chemical equilibrium in a vessel with adiabatic insulation containing a mixture of gases, assuming that volume is an arbitrary function of pressure. It is shown that this assumption does not introduce any serious analytical complications as compared with the cases where pressure or volume is assumed to be constant even though the enthalpy and internal energy of the system vary with an arbitrary relationship between pressure and volume. At the same time, the numerical values of the thermodynamic parameters may differ considerably. An example is given showing application of the proposed system of equations in determining the composition of a gas mixture after chemical equilibrium is reached in a thermally insulated vessel designed for a linear relationship between volume and pressure. It is shown that equilibrium parameters in actual vessels may differ considerably from those under ideal conditions even with a fairly weak relationship between volume and pressure. Orig. art. has: 9 formulas.

SUB CODE: 20/ SUBM DATE: 12Feb65
Card 1/1

18(2,3)

AUTHOR: Zernyakov, B.S., Engineer

SOV/128-59-5-30/35

TITLE: Method of Melting Aluminium Alloys

PERIODICAL: Liteynoye Proizvodstvo, 1959, Nr 5, pp 43(USSR)

ABSTRACT: The Chelyabinsk Tractor Factory saves electric energy by no longer adding chloride of zinc to the bar as usual, but conducting it directly to the melting furnace through a casting-gutter.

Card 1/1

ZERNYSHKOV, G.

ZERNYSHKOV, G.

Supervisor of a progressive shop. Prom.koop, no.5:4 My '57.
(MLRA 10:8)

1.Sekretar' partorganizatsii arteli "Aktivist", g. Bor, Gor'kovskoy.
(Priakhov, Mikhail Platonovich)

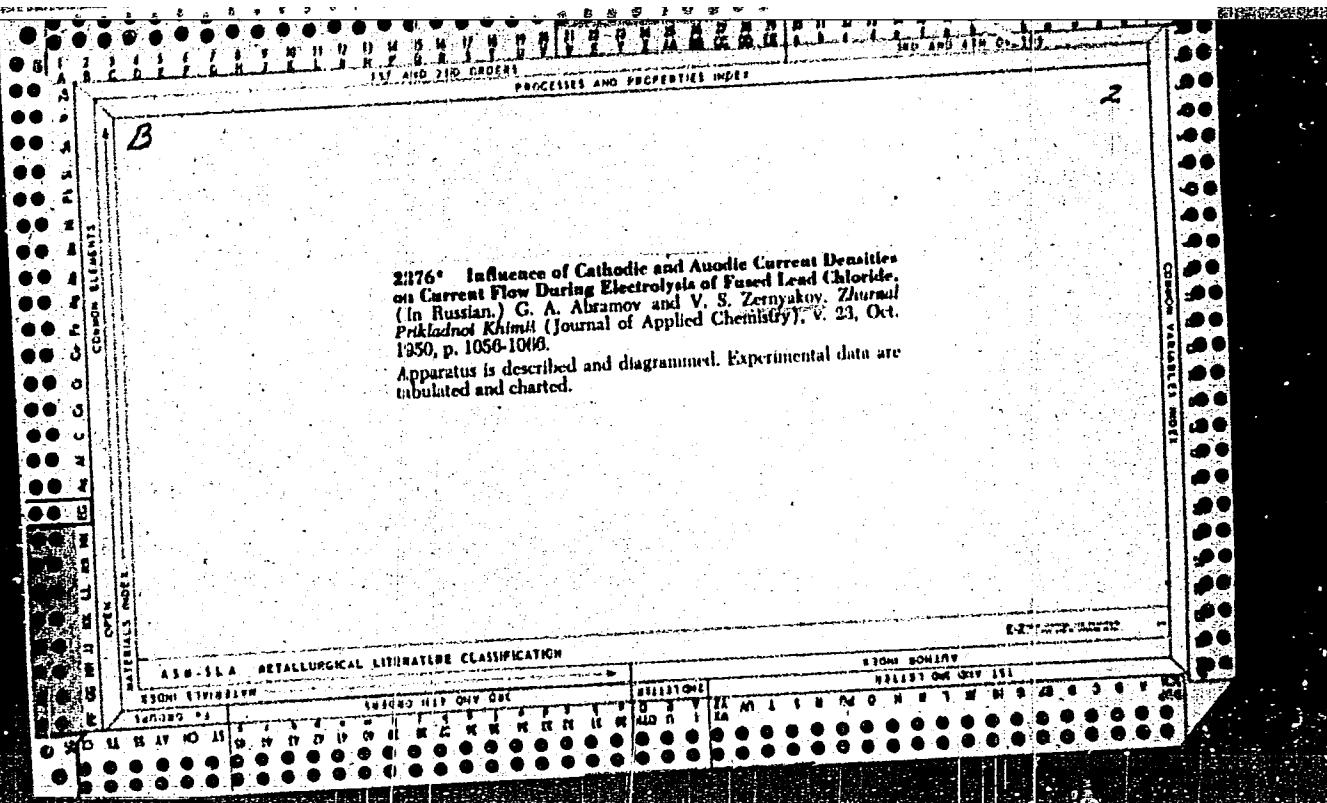
CP

Influence of the cathodic and the anodic current densities
on the current efficiency in the electrolysis of fused lead
chloride. G. A. Abramov and V. S. Zernyakov (Kalinin
polytech. Inst., Leningrad). *J. Applied Chem. U.S.S.R.*
23, 1121-32 (1950) (Engl. translation).—See *C.A.* 40,
43351.

CA

4

Influence of the cathodic and the anodic current densities on the current efficiency in the electrolysis of fused lead chloride. G. A. Abramov and V. S. Zeruyakov (Leningrad Polytechn. Inst.). *Zhur. Priklad. Khim. (J. Appl. Chem.)* 23, 1050 (1950).—Electrolyses were carried on a crucible-type electrolyzer, with the molten Pb at the bottom serving as cathode, and a graphite anode above the cathode. Cathodic and anodic c.d.s., D_c and D_a , were varied independently of each other by varying the current intensity i and the exposed surface of the cathode or the anode. It was shown that the current efficiency η was a function not only of D_c , but also of i and of D_a . Exptl. data are: at $i = 5$ amp., $D_c = 2.0$ amp./sq. cm., $D_a = 0.49, 0.66, 1.0, 2.0$, $\eta = 92.9, 93.6, 94.2, 95.2$; at $i = 3.75$, $D_c = 1.5$, $D_a = 0.37, 0.50, 0.75, 1.49$, $\eta = 91.8, 93.0, 93.6, 94.3$; at $i = 2.5$, $D_c = 1.0$, $D_a = 0.26, 0.39, 0.50, 1.0$, $\eta = 88.7, 90.5, 92.7, 93.8$; at $i = 1.25$, $D_c = 0.5$, $D_a = 0.12, 0.16, 0.25, 0.50$, $\eta = 83.2, 87.2, 88.8, 91.3$. These data show the effect of D_a indirectly. Direct demonstration is provided by variation of D_a at const. D_c , e.g., at $i = 3.75$, $D_c = 0.38$, $D_a = 0.57, 1.00, 1.84, 3.61$, $\eta = 93.96, 94.53, 94.05, 95.05$; at $i = 1.25$, $D_c = 0.12$, $D_a = 0.19, 0.33, 0.63, 1.18$, $\eta = 80.15, 88.65, 93.45, 94.2\%$. The current efficiency evidently decreases both with decreasing D_a and with decreasing D_c . Furthermore, η is greater if the side wall of the electrolyzer is insulated; this effect of insulation of the side wall is greater, with lower i , e.g., at $i = 5$ the difference with insulated and uninsulated wall is only 5%, but with $i = 1.25$ amp. it attains 60%. The dependence of η on D_a and i , and on the insulation of the wall, is interpreted by losses of metal which are a function of these factors. N. Thun



ZERNYAKOV, Boris Stepanovich; TREBELEV, Aron Markovich; BURLAKOV, Vladimir Yevgen'yevich; POLIVANOV, Vasiliy Fedorovich; MANZON, Eduard Abramovich; DUNAYEV, Yuriy Andreyevich; UDAL'TSOV, A.N., glavnnyy red.; MALOV, A.N., kand.tekhn.nauk, red.; TUCHINSKIY, N.V., inzh., red.; ZASLAVSKIY, M.L., inzh., red.; SMIRNOV, P.V., inzh., red.; NEUSYPIN, A.M., inzh., red.

[New method of preparing aluminum alloys in electric furnaces; Efforts to avoid losses in brass smelting; Use of rolled metal with variable cross section for the manufacture of truck trailer axles; New design of rotor blades for low capacity hydraulic turbines; Lubricant collection in settling basins] Novyi sposob prigotovleniya aluminievykh splavov v elektricheskikh pechakh; Bor'ba s poteriами pri plavke latuni; Primenenie prokata peremennogo secheniya dlja izgotovleniya osei avtopritsepa; Novaia konstruktsiya lopastei rabochikh koles gidroturbin maloi moshchnosti; Sbor masla v otstoinikakh. Moskva, 1956. 12 p. (Perevodoi proizvodstvenno-tehnicheskii optyt. Ser.19. Ekonomiya materialov i novye materialy, primenyaemye v mashinostroenii. No.T-56-363/6). (MIRA 13:3)

1. Akademiya nauk SSSR. Institut nauchnoy i tekhnicheskoy informatsii.

(Technological innovations)

KUTSAY, Sh.Ya.; LIUBCHAK, M.V.; ZERNYAKOVA, B.S.

Using molten metal instead of ingot bars in making silumin alloys
in electric furnaces. Suggestion by Sh.IA.Kutsai, M.V.Liubchak,
B.S.Zerniakova. Prom.energ. 11 no.3:22 Mr '56. (MLR 9:7)

1.Ural'skiy Kirovskiy zavod.
(Silumin)

LEVCHENKO, Yelizaveta Sergeyevna; BOBKOVA, Yelena Nikolayevna;
PONOMAREVA, Yelena Andreyevna. Prinimal uchastiye
ZERNYSHKO, T.A., st. nauchn. sotr.; DZHORDZHI, A.N.,
ved. red.; STAROSTINA, L.D., tekhn. red.; YAKOVLEVA,
Z.I., tekhn. red.

[Petroleums of the Northern Caucasus] Nefti Severnogo
Kavkaza; spravochnaia kniga. Moskva, Gostoptekhizdat,
1963. 335 p. (MIRA 16:10)

1. Krasnodarskiy filial Vsesoyuznogo nauchno-issledovatel'skogo
neftegazovogo instituta (for Zernyshko).
(Caucasus, Northern--Petroleum--Analysis)

ZERNYSHKO, T.A.; KOTOV, V.S.; KUDRYAVTSEVA, Ye.S.

Petroleum in Miocene fields of the western Kuban. Trudy KF VMII
no.3:201-208 '60.
(Kuban Lowland--Petroleum--Analysis) (MIRA 13:11)

ZERO, Tadeusz

Frame grids in miniature tubes of small input. Przegl elektroniki
3 no.12:710-712 D '62.

1. Przemyslowy Instytut Elektroniki, Warszawa.

P/053/62/000/012/009/011
E192/E382

AUTHOR: Žero, Tadeusz

TITLE: Frame grids in low-power miniature tubes

PERIODICAL: Przegląd elektroniki, no. 12, 1962, 710 - 712

TEXT: The production technology for the manufacture of frame grids was worked out. This is principally a laboratory technology whose main processes are: 1) preparation (smoothing) of the surface of the grid support wires and accurate inspection of their surfaces; the roughness of the support surfaces should not exceed the thickness of the grid-winding wire (8μ); 2) point-welding of the grid frame; the molybdenum support wires are made into a frame by using molybdenum binder strips; 3) gold-plating of the molybdenum support wires; this should be uniform and durable and about $5 - 10 \mu$ in thickness; 4) grid-winding; a special proto-type grid-winder was designed and built; 5) fixing of the winding here, it was found that the turns did not require fixing (although it does not follow that this is undesirable); 6) inspection of the grids; the final inspection was effected by the so-called "vibroscope", which permitted investigation of the motion of the

Card 1/2

Frame grids

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E192/E382

grids at frequencies ranging from 0.1 - 42 kc/s.
There are 2 figures.

ASSOCIATION: Przemysłowy Instytut Elektroniki
(Industrial Institute of Electronics)

Card 2/2

133 AND TWO PAGES

BC

B-T-P

Solubility of MnO in water and in excess of sodium. K. Sauerwein and W. Zenz. (Gas. Okhrana, 1936, 77, 377-391; Internat. Sugar J., 1936, 58, 149).—Figures for the solubility of CaO in pure H_2O (0°-80°), in eq. NaOH , and in aqueous (I) solutions are recorded. In a (II) medium dissolution is a complicated phenomenon, and neither the rate of dissolution nor the effect of an excess of CaO can be satisfactorily explained.

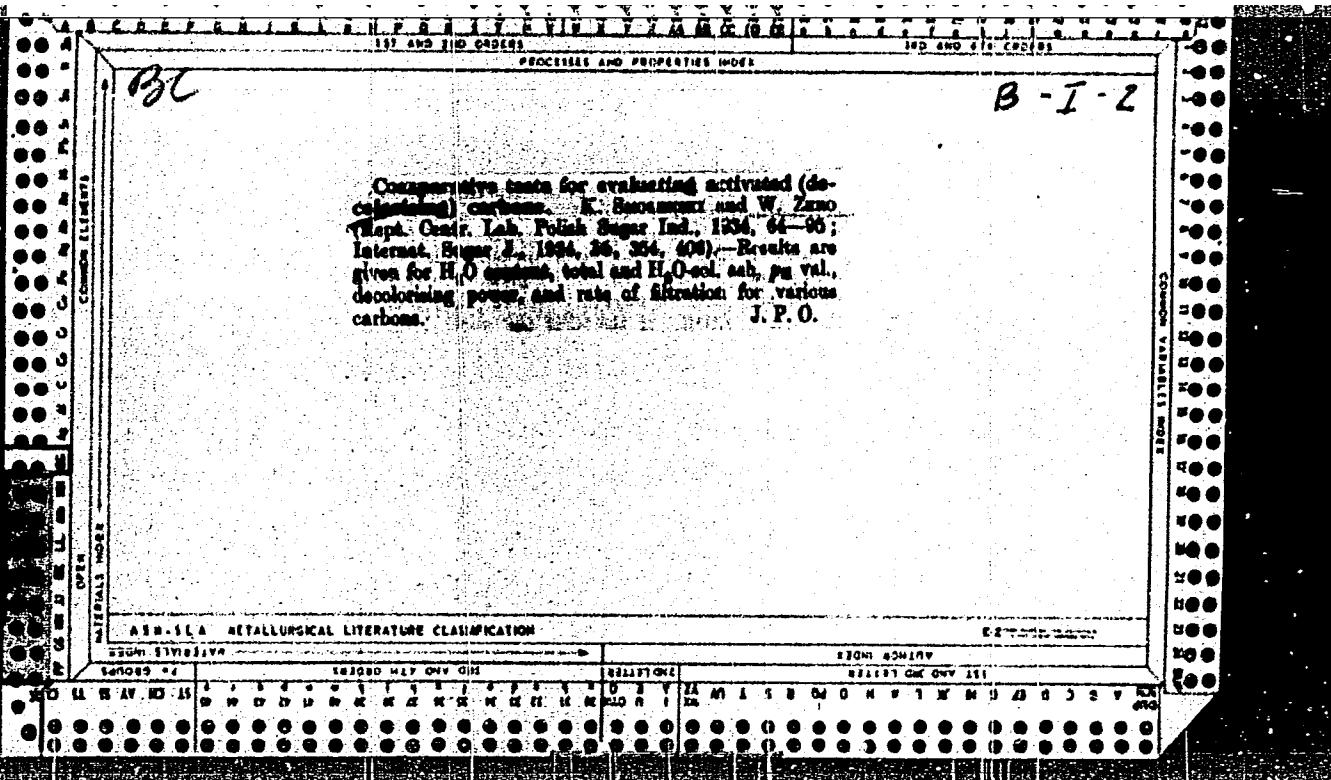
J. P. O.

CA

28

Utilization of nonsugars in diffusion juice. W. Zero, *Can. Patent Office 80, 147-166, 209-212 (1949); Super Ind. Abstracts 11, 180 (1949).*—Juice said, in 2 stages has a better color and purity than juice said, to final alkyl. In one stage, it has been found that some re-peptization of the nonsugars can occur after preliminary defecation, if contact with juice is prolonged. Removal of the ppt. after preliminary defecation is, therefore, advised; advantages of this procedure are (1) removal of any residual pulp, (2) independence of changes in lime to be added, (3) reduction of foaming in 1st attn., and (4) independence of the filter presses from errors in attn., since nearly pure CaCO_3 is being filtered. When the sludge is not needed for fertilizer, the nearly pure CaCO_3 in 1st attn. sludge can be regenerated (to lime) about 20 times. Centrifugal sepa. of the ppt. from pre-defecation has not proved satisfactory. Tests with a vacuum rotary drum filter were also unsatisfactory unless the juice was settled and decanted previously. The simplest and cheapest method is by decantation alone; good decantation results are dependent on accurate liming in the pre-defecation, and a slight excess is best. Sweetening-out of the concd. ppt. is discussed; such ppt. might be filtered (10% of a previous batch being used as filter-aid), or the ppt. might be diffused out in the middle vessel of a diffusion battery. The simplest process is to use two decantations, returning the second (washing) liquor to the first separator. R. D. H.

1937



2600, WL ~~2400~~

CZECHOSLOVAKIA/Chemical Technology. Chemical Products and Their Application. Carbohydrates and Refinement.

N-26

Abs Jour: Referat Zhur-Khimiya, No 5, 1958, 15916.

Author : Zero Wl., Zareba Z. Hanzczynski J.

Inst :

Title : Investigation of the Continuous Operation of an Olier Diffuser in Poland.

Orig Pub: Listy cukrovarn., 1957, 73, No 8, 168-176.

Abstract: The diffusion apparatus of Olier (DAO) with a daily output capacity of 12000-15000 centners, installed in 1957, was tested for 34 days with underloading and interruptions of operation. A description, drawings and photographs of the unit are included, as well as the results of tests over three periods (November -December 1956). A robert diffusion battery (RIB) was also in operation at the same time.

Card : 1/2

~~W. J. P.~~ ZERO, W. J. P.

Equipment for continuous vacuum filtration. Henryk Dabrowski, Barbara Staszewska and Wladyslaw Zera. *Prace Inst. i Lab. Badawczych Przemyslu Rolniczego*, 1960, tom 5, No. 1, s. 13 (1960) (French summary). — Improvement of filtration of the juice from the first juice, was studied involving the detn. of variables of this unit operation and design of a continuous vacuum filter and decanters. A continuous rotary vacuum filter employing properly supported fabric filtering media was used. The filter had provisions for continuous discharge of the filter-cake as well as of the filtrate. Optimum conditions were detd. A. J. P.

2

ZERO IN

✓ Comparison of the action of active carbon on juice [which is]
(a) clarified and (b) containing residues from second saturation.
T. Pietrzawski, W. Zero, and B. Staszewska (Gaz. Cukr., 1955, 57,
73-75).—Active C (0.25-2.0% on dry solids) was added to beet
juice before second saturation or after second saturation at 80° to
0.01% CaO, before or after the filtration. The C was left in contact
for 3-10 min. and then filtered. From determinations of the juice
colours it was found that the addition of C gave the best effect after
second saturation and filtering, with only 3 min. contact, especially
with small amounts of active C. Sug. Ind. Anstr. (U. S. J.).

(7)

ZERO, W.

4029

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Pietrzekowski T., ZERO, W., Stosunek zw. B. Comparsion of the Effect of

Active Carbon and A) Clarified Juice, and B) Juice Containing Precipitate After 2-nd Carbonation.

„Porównanie działania węgla aktywowanego na sóci i klarownie I b) zawierające sód po II saturacji” Gazeta Cukrownicza No 4-5 1955, pp. 73-75, 1 fig. 1 tab

An attempt to determine whether and under what conditions the addition of carbon before or after the second carbonation and its subsequent separation in filter presses after the 2-nd carbonation together with the carbonate sediment, makes it possible to obtain juice of a colouring approaching that of clarified juice treated with carbon after the 2-nd saturation. The following conclusions were drawn: 1) active carbon added to unfiltered juice after the 2-nd carbonation produces a decolorization effect approaching that produced by carbon acting on a clarified juice only when the active carbon is added in sufficiently large doses and the duration of contact is adequate e.g. 10 minutes with carbon added in doses of 0.75 per cent of dry mass. 2) unfiltered juice may be treated with carbon provided that it is added in quantities of 0.75 per cent of the weight of the sugar. To secure a sufficiently long contact between the carbon and the juice, the former should be added in practice before the carbonation.

MD (2)

W. Zero, B. Staszewska, B. Grucl, A. Kintzel, Z. Nitschke, Medyślów

Adsorption by calcium carbonate during syrup purification by defeco-saturation. Włodzimierz Zero, Barbara Staszewska, Bolesław Grucl, Anna Kintzel, and Zbigniew Nitschke. *Prace Inst. i Lab. Badawczych Przemysłu Rolnego i Spółwzajęgo 5, No. 1, 14-21 (1955).* — Although adsorption of nonsugars is of great value in sugar purification, it presents serious disadvantages from the standpoint of sugar crystals, which as a rule takes place in contaminated solns. Adsorption of nonsugars on purifying adsorbents depends on their character and concn. Conclusion: Adsorption by CaCO_3 is not limited to the removal of the colored substances only but involves to a certain extent nonsugars of both org. and inorg. character. Degree of adsorption by CaCO_3 depends on the amt. of Ca introduced; hence it depends on the total surface of adsorption. Concn. of Ca exceeding 6% $\text{CaO}/100^\circ \text{ Brix}$, does not increase the adsorption. Percentage-

wise, adsorption is most pronounced in colored "amethyst" substances and connected with α -amino acids. Ca^{++} cations are adsorbed more strongly than K^+ cations. Increase of the value of the factor: $n = (\text{percentage of adsorption at } 4720 \text{ \AA.})/(\text{percentage of adsorption at } 5000 \text{ \AA.})$, resulting from the increase of the Ca^{++} addn., indicates the removal of undesirable colored substances. Percentage of nonsugars removed depends on concn. of the soln. subjected to the defeco-satn. Adsorption of org. substances decreases as concn. of defeco-satn. soln. increases; however, adsorption of inorg. substances follows an opposite pattern. The retarding effect of viscosity of the soln. upon the rate of adsorption is most pronounced in the case where high-mol. org. substances are present. The process of adsorption appears to be very complicated. Apart from phys. adsorption and chemisorption, there is undoubtedly a purely mech. process of removal and occlusion of colloidal and semicolloidal particles in the course of defeco-satn. A. J. P. (4)

ZERO, W.

Zero W. Dependence of the Rate of Sugar Solution Filtration on Temperature and Brix

"Wzbiórko wiedzenia roztworów cukrowych w zależności od temperatury i Bx". (Prace Gl. Inst. Przem. Roln. i Spoż. No. 4), Warszawa, 1953. PWT, 8 pp., 4 figs., 7 tabs.

Results of experiments, presented in the form of tables and diagrams, indicate that temperature and Brix variations have an important influence on the rate of filtration; this, irrespectively of the technological scheme in the sugar factory and refinery, should be taken into consideration as regards both the presses and the filters. The author determined for a thick syrup, the limit of Bx which should not, due to the rate of filtration, to be overstepped in a given temperature. The divergence between the rate of filtration in litres per min. m^2 and the filtration rate of the dry substance in solution in kg per min. m^2 is explained quantitatively. From a technological point of view, the filtration of any amount of a dry dissolved substance is more essential than the filtration of any amount of a liquid substance. The maximum optimal rate expressed in kg of the dry substance dissolved, m^2 min. m^2 occurring in the limits of 20-25 Bx, is very distinct and characteristic. The data provided by the tables and diagrams will be found of great value when any changes are introduced in the processing scheme or in the filter apparatus.

ZERO, W.

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✓ Rate of filtration of sugar solutions in relation to temperature and degrees Brix. W. Zero. *Prace Głównego Inst. Przem. Roln. i Spasyciego*, 2, No. 4, 9-17 (1933).—Lab. app. is described in which filtration tests were made at const. pressure, at temp. 75-115°, and with const. quality of ppt. (pure CaCO_3 or factory second satd. sludge) in sugar solns. (const. purity 82.5) of 25-70° Brix. Filtration rates (on vol. basis) were reduced by >50% on doubling the cake-thickness, and decreased rapidly with increasing "Brix" of this sugar soln., but rates in terms of wt. of dry solids per sq. cm. showed a max. for 20-51° Brix at all temps., the max. being a little lower at lower temp. Filtration at 90°, as carried out in some Russian factories, is recommended. II. A.

CA

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Color of dried beet pulp. W. Zito. *Gas. Cubanowicza* 40, 371-385 (1948); *Sugar Ind. Abstracts* 11, 47 (1949). Details are given of the pulp driers used and results obtained in different factories. Color is important as a factor in pulp quality; it is affected by the compn. of the combustion gases used for heating and, e.g., their ash content, by chem. processes in the pulp, and by the time and temp. of heating. Color tests were made, with a photoelectric colorimeter, on an ext. of the ground pulp (2 g. in 100 cc. of boiling water, stirred every 2 min., filtered after 10 min. into standard tubes), measuring the absorption. Tests were made with ordinary pressed pulp (0.35% sugar), further demineralized pulps (0.10% and 0.02% sugar), and sugared pulps (1.2% and 2% sugar), 300 g. of each being dried at different temps. (105-190°). Data are tabulated. With const. temp. the absorption is directly proportional to the sugar content; the color also increases with temp., except that above 170° overheating causes a decrease in color; high temp. is less dangerous for low-sucrose pulp. The effect of sugar content is very small for pulp-drying below 190°. The effect of time of drying was found to be rather variable. R. D. 11

1937

Stability of lime in water and in solutions of sucrose. K. Smolenski and W. Zera. *Bull. intern. acad. polonaise, Classe sci. math. nat.* 1933, 586-601 (in French); *Rosznik Chem.* 16, 24-36 (in French 30) (1933).—The solv. of $\text{Ca}(\text{OH})_2$, calc'd, as g. CaO per 100 cc. of soln. in H_2O at 0° , 20° , 40° , 60° and 80° is 0.136, 0.127, 0.110, 0.089 and 0.072, resp., the p_{H} varying from 12.61 to 12.32. In 0.03, 0.05, 0.1, 0.2 and 0.5 N NaOH at 20° the solv. is 0.057, 0.061, 0.030, 0.014 and 0.006. The solv. product varies from 1342×10^6 to 684×10^6 . In solns. that hold from 1 to 30 g. of sucrose per 100 cc. the solv. of CaO varies from 0.263 to 0.207 (upper limit 24 g. sucrose) at 0° to 0.176 to 0.007 (upper limit 30 g. sucrose) at 20° ; 0.183 to 8.910 at 40° ; 0.119 to 3.729 at 60° and 0.072 (H_2O) to 2.602 at 80° . At a given temp. the p_{H} is slightly lower than that in H_2O , but is const. and independent of the sucrose concn. The ratio $\text{CaO}/\text{sucrose}$ increases from

1.08 to 1.32 in solns. of sucrose ranging from 1.5 to 24 g. per 100 cc., but the p_{H} remains 12.0. W. F. Bruce

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